**YEAR 11 Revision HW for TEST 6 Foundation**

**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Teacher \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| Algebra | /15 | Indices & SF | /15 | Circles | /10 | Linear Graphs | /10 |

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| Q | Algebra |  |
| 1. | Work out the value of    5*x* + 9*y*    when    *x* = 7    and    *y* = –2  …………………… | (2) |
| 2. | Work out the value of     2*a*2 + *b*3     when *a* = 5 and *b* = –3  …………………… | (3) |
| 3 | Circle the equivalent expression to         5(*x* + 4)     |  |  |  |  | | --- | --- | --- | --- | | 5*x* + 4 | *x*5 + 20 | 5*x* + 20 | *x* 5 + 4 |  |  |  |  | | --- | --- | --- | |  |  |  | | (1) |
| 4. | 1. Expand        3(*x* − 6)   ……………………………   1. Expand        4(5*x* + 2)   ……………………………   1. Factorise        5*y* – 10   ……………………………   1. Factorise        24*y*2 + 16*y*   ……………………………   1. Expand and simplify        3(4*w* + 1) − 5(3*w* − 2)     ……………………………………… | (1)  (1)  (1)  (1)  (2) |
| 5. | Expand and simplify        (2*x* + 1)(*x* − 2)    ……………………………………… | (3) |
|  | TOTAL | /15 |

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| Q | Indices and Standard Form |  |
| 1. | Simplify   1. *n*2 × *n*6 (b)  (c) (n6)2   ……………… ……………… ……………… | (3) |
| 2. | Write as a single power of 9    ………………… | (2) |
| 3. | Write the following ordinary numbers in standard form:  a) 7 123 000 ………………………………  b) 0.000 789 ………………………………  c) 15.4 x 107 ……………………………… | (3) |
| 4. | Write the following standard form numbers as ordinary numbers:  a) 1.2 x 10-3 …………………………………  b) 8.02 x 104 ………………………………… | (2) |
| 5. | (a)     Work out     2 × 106 × 8 × 104  Give your answer in standard form.  …………………………………  (b)     Work out      Give your answer as an ordinary number.  ………………………………… | (2)  (2) |
| 6. | It is estimated that there are 7 500 000 000 000 000 000 grains of sand on the world’s beaches.  (Source University of Hawaii)  Write this number in standard form.  ………………………………… | (1) |
|  | TOTAL | /15 |

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| Q | Indices and Standard Form |  |
| 1. | *O* is the centre of the circle. Circle the word to complete each sentence.    Choose from the following words:  chord          circumference              diameter              radius              tangent  (a)     The line *OA* is a …………………………………    (b)     The line *MN* is a …………………………………  (c)     The line *ST* is a ………………………………… | (3) |
| 2. | Calculate the area and circumference for this circle:    5cm  Area = ……………………….. cm2  Circumference = ………………… cm | (3) |
| 3. | Work out the perimeter of a semi-circle of radius 6 cm. Give your answer in terms of *π*.    ………………… cm | (2) |
| 4. | The diagram shows a circle inside a square.Not drawn accurately  Work out the area of the circle.    ………………… cm2 | (2) |
|  | TOTAL | /10 |
| Q | Linear Graphs |  |
| 1. | 1. Complete the table for  *y* = 3*x* − 1  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | *x* | –3 | –2 | –1 | 0 | 1 | 2 | 3 | |  | *y* | –10 |  | –4 | –1 | 2 |  | 8 |  1. On the grid draw the graph of  *y* = 3*x* − 1  for values of *x*  from −3 to 3 | (2)  (2) |
| 2. | Work out the equation of line *AB*.  Image result for y=mx+ c …………………………… | (2) |
| 3. | Write down an equation which is parallel to *y* = 5*x* – 2  …………………………… | (1) |
| 4. | Write down the coordinate where the line *y* = 4*x* + 3 crosses the y axis  (………… , …………) | (1) |
| 5. | Work out the equation of the line passing through (2, 5) and parallel to the line *y* = 3*x* + 4  …………………………… | (2) |
|  | TOTAL | /10 |